

SAFETY EVALUATION BY THE OFFICE OF NEW REACTORS

RELATED TO EXEMPTION AND AMENDMENT NO. 63

TO THE COMBINED LICENSE NOS. NPF-93 AND NPF-94

SOUTH CAROLINA ELECTRIC & GAS COMPANY

SOUTH CAROLINA PUBLIC SERVICE AUTHORITY

VIRGIL C. SUMMER NUCLEAR STATION UNITS 2 AND 3

DOCKET NOS. 52-027 AND 52-028

1.0 INTRODUCTION

By letter dated September 28, 2016 (Agencywide Document Access and Management System (ADAMS) Accession No. ML16272A373), proposed License Amendment Request (LAR) 16-16, South Carolina Electric & Gas Company (SCE&G) on behalf of itself and the South Carolina Public Service Authority (both hereafter called the licensee) requested that the U.S. Nuclear Regulatory Commission (NRC) amend the combined licenses (COL) for Virgil C. Summer Nuclear Station (VCSNS) Units 2 and 3, COL Numbers NPF-93 and NPF-94, respectively, regarding the addition of fuse isolation panels to the Class 1E direct current (dc) and uninterruptible power supply system (IDS). Specifically, these proposed changes will provide electrical isolation between the non-Class 1E IDS battery monitors and their respective Class 1E battery banks.

The proposed amendment (LAR 16-16) would revise the Updated Final Safety Analysis Report (UFSAR) in the form of departures from the incorporated plant-specific Design Control Document (DCD) Tier 2 information. The proposed amendment also involves related changes to plant-specific Tier 1 information, with corresponding changes to the associated COL Appendix C information for the Class 1E dc and IDS.

The licensee has also requested an exemption from the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 52, Appendix D, "Design Certification Rule for the AP1000 Design," Section III.B, "Scope and Contents." This exemption request will allow a departure from the corresponding portions of the certified information in Tier 1 of the generic DCD.¹

¹ While the licensee describes the requested exemption as being from Section III.B of 10 CFR Part 52, Appendix D, the entirety of the exemption pertains to proposed departures from Tier 1 information in the generic DCD. In the remainder of this evaluation, the NRC will refer to the exemption as an exemption from Tier 1 information to match the language of Section VIII.A.4 of 10 CFR Part 52, Appendix D, which specifically governs the granting of exemptions from Tier 1 information.

In order to modify the UFSAR (the plant-specific DCD) Tier 1 information, the NRC must find the licensee's exemption request included in its submittal for the LAR to be acceptable. The staff's review of the exemption request, as well as the LAR, is included in this safety evaluation.

The NRC staff's proposed No Significant Hazards Consideration Determination was published in the *Federal Register* on October 25, 2016 (81 FR 73428).

2.0 REGULATORY EVALUATION

10 CFR Part 50, Appendix A, General Design Criterion (GDC) 2, "Design Basis for Protection Against Natural Phenomena," requires that structures, systems and components (SSCs) important to safety shall be designed to withstand the effects of natural phenomena such as earthquakes, tornadoes, hurricanes, floods, tsunami, and seiches without loss of capability to perform their safety functions. The design bases for these SSCs shall reflect: (1) Appropriate consideration of the most severe of the natural phenomena that have been historically reported for the site and surrounding area, with sufficient margin for the limited accuracy, quantity, and period of time in which the historical data have been accumulated, (2) appropriate combinations of the effects of normal and accident conditions with the effects of the natural phenomena, and (3) the importance of the safety functions to be performed.

GDC 4, "Environmental and Dynamic Effects Design Basis," requires, in part, that SSCs important to safety shall be designed to accommodate the effects of and to be compatible with the environmental conditions associated with normal operation, maintenance, testing, and postulated accidents, including loss-of-coolant accidents. These SSCs shall be appropriately protected against dynamic effects, including the effects of missiles, pipe whipping, and discharging fluids, that may result from equipment failures and from events and conditions outside the nuclear power unit.

GDC 17, "Electric Power System," requires, in part, that an onsite electric power system and an offsite electric power system be provided to permit functioning of SSCs important to safety. The onsite electric power supplies, including the batteries, and the onsite electric distribution system, shall have sufficient independence, redundancy, and testability to perform their safety functions assuming a single failure.

GDC 18, "Inspection and Testing of Electric Power System," requires, in part, that electric power systems important to safety be designed to permit appropriate periodic inspection and testing of important areas and features, such as wiring, insulation, connections, and switchboards, to assess the continuity of the systems and the condition of their components. The systems shall be designed with a capability to test periodically (1) the operability and functional performance of the components of the systems, such as onsite power sources, relays, switches, and buses, and (2) the operability of the systems as a whole.

Appendix D, Section VIII.A.4 to 10 CFR Part 52 states that exemptions from Tier 1 information are governed by the requirements in 10 CFR 52.63(b)(1) and 10 CFR 52.98(f). It also states that the Commission will deny such a request if it finds that the design change will result in a significant decrease in the level of safety otherwise provided by the design.

Appendix D, Section VIII.B.5.a to 10 CFR 52 requires, among other things, that an applicant or licensee who references 10 CFR Part 52, Appendix D may depart from Tier 2 information, without prior NRC approval, unless the proposed departure involves a change to or departure

from Tier 1 information, Tier 2* information, or Technical Specifications, or requires a license amendment under paragraphs B.5.b or B.5.c of 10 CFR Part 52, Appendix D, Section VIII.

10 CFR 52.63(b)(1) allows the licensee who references a design certification rule to request NRC approval for an exemption from one or more elements of the certification information. The Commission may only grant such a request if it determines that the exemption will comply with the requirements of 10 CFR 52.7, which, in turn, points to the requirements listed in 10 CFR 50.12 for specific exemptions, and the special circumstances present outweigh any decrease in safety that may result from the reduction in standardization caused by the exemption. Therefore, any exemption from the Tier 1 information certified by Appendix D to 10 CFR Part 52 must meet the requirements of 10 CFR 50.12, 52.7, and 52.63(b)(1).

10 CFR 52.98(f) states that any modification to, addition to, or deletion from the terms and conditions of a COL, including any modification to, addition to, or deletion from the inspections, tests, analyses, and acceptance criteria (ITAAC) contained in the license is a proposed amendment to the license. Appendix C of COLs NPF-91 and NPF-92 contain information that the licensee is proposing to modify. Therefore, the proposed changes require a license amendment.

Standard Review Plan (SRP), NUREG-0800, Section 8.3.2, as it pertains to isolation between non-Class 1E and Class 1E equipment, states that the isolation device including control circuits and connections must be designed to meet safety Class 1E requirements to ensure that the interconnections between non-Class 1E and Class 1E equipment will not result in the degradation of the Class 1E systems or components.

3.0 TECHNICAL EVALUATION

3.1 EVALUATION OF EXEMPTION

The regulations in Section III.B of Appendix D to 10 CFR Part 52 require a holder of a COL referencing Appendix D to 10 CFR Part 52 to incorporate by reference and comply with the requirements of Appendix D, including certified information in Tier 1 of the generic AP1000 DCD. Because the licensee has identified changes to plant-specific Tier 1 information, with corresponding changes to the associated COL Appendix C information during design finalization of the IDS, resulting in the need for a departure, an exemption from the certified design information within plant-specific Tier 1 material is required under 10 CFR 52.63(b)(1) to implement the LAR. Also, the exemption is needed because Section VIII.A.4 of Appendix D to 10 CFR Part 52 requires a licensee to obtain an exemption to depart from the Tier 1 information of the generic AP1000 DCD.

The Tier 1 information for which a plant-specific departure and exemption was requested includes corresponding changes to COL Appendix C information during reconfiguration of the IDS. The result of this exemption would be that the licensee could implement modifications to Tier 1 information described and justified in LAR 16-16 if, and only if, the NRC approves LAR 16-16. This exemption is a permanent exemption limited in scope to the particular Tier 1 information specified.

As stated in Section VIII.A.4 of Appendix D to 10 CFR Part 52, an exemption from Tier 1 information is governed by the requirements of 10 CFR 52.63(b)(1) and 52.98(f). Additionally, Section VIII.A.4 of Appendix D to 10 CFR Part 52 provides that the Commission will deny a request for an exemption from Tier 1 if it finds that the requested change will result in a

significant decrease in the level of safety otherwise provided by the design. Pursuant to 10 CFR 52.63(b)(1), the Commission may grant exemptions from one or more elements of the certification information, so long as the criteria given in 10 CFR 52.7, which, in turn, references 10 CFR 50.12, is met and that the special circumstances, which are defined by 10 CFR 50.12(a)(2), outweigh any potential decrease in safety due to reduced standardization.

Pursuant to 10 CFR 52.7, the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of 10 CFR Part 52. As 10 CFR 52.7 further states, the Commission's consideration will be governed by 10 CFR 50.12, "Specific exemptions," which states that an exemption may be granted when: (1) the exemptions are authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security; and (2) special circumstances are present. Specifically, 10 CFR 50.12(a)(2) lists six special circumstances for which an exemption may be considered. It is necessary for one of these special circumstances to be present in order for the NRC to consider granting an exemption request. The licensee stated that the requested exemption meets the special circumstances of 10 CFR 50.12(a)(2)(ii). That subparagraph defines special circumstances as when "[a]pplication of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule." The staff's analysis of each of these findings is presented below.

3.1.1 AUTHORIZED BY LAW

This exemption would allow the licensee to implement a revision to Tier 1 Section 2.6.3 and Tables 2.6.3-1, 2.6.3-3, and 2.6.3-4 and corresponding changes to COL Appendix C in the plant-specific DCD. This exemption is a permanent exemption limited in scope to particular Tier 1 information. Subsequent changes to Tier 1 Section 2.6.3, and Tables 2.6.3-1, 2.6.3-3, and 2.6.3-4 and corresponding changes to Appendix C or any other Tier 1 information would be subject to the exemption process specified in Section VIII.A.4 of Appendix D to 10 CFR Part 52 and the requirements of 10 CFR 52.63(b)(1). As stated above, 10 CFR Part 52, Appendix D, Section VIII.A.4 allows the NRC to grant exemptions from one or more elements of the Tier 1 information. Based on 10 CFR Part 52, Appendix D, Section VIII.A.4, the NRC staff has determined that granting of the licensee's proposed exemption will not result in a violation of the Atomic Energy Act of 1954, as amended, or the Commission's regulations. Therefore, as required by 10 CFR 50.12(a)(1), the exemption is authorized by law.

3.1.2 NO UNDUE RISK TO PUBLIC HEALTH AND SAFETY

The underlying purpose of Appendix D to 10 CFR Part 52 is to ensure that a licensee will construct and operate the plant based on the approved information found in the DCD incorporated by reference into a licensee's licensing basis. The changes proposed by the licensee do not add or delete systems or equipment as described in Tier 1 of the AP1000 DCD. These changes will not impact the ability of the systems or equipment to perform their design function. Because they will not alter the operation of any plant equipment or systems, these changes do not present an undue risk from existing equipment or systems. These changes do not add any new equipment or system interfaces to the current plant design. The description changes do not introduce any new industrial, chemical, or radiological hazards that would represent a public health or safety risk, nor do they modify or remove any design or operational controls or safeguards intended to mitigate any existing on-site hazards. Furthermore, the proposed changes would not allow for a new fission product release path, result in a new fission

product barrier failure mode, or create a new sequence of events that would result in significant fuel cladding failures. Accordingly, these changes do not present an undue risk from any new equipment or systems. Therefore, as required by 10 CFR 50.12(a)(1), the staff finds that there is no undue risk to public health and safety.

3.1.3 CONSISTENT WITH COMMON DEFENSE AND SECURITY

The proposed exemption would allow changes to elements of the IDS, as presented in the system and non-system based ITAAC tables in the plant-specific DCD Tier 1, thereby departing from the AP1000 certified (Tier 1) design information. This proposed exemption would be a permanent exemption limited in scope to particular Tier 1 Section 2.6.3 and Tables 2.6.3-1, 2.6.3-3, and 2.6.3-4 information and corresponding changes to Appendix C. Any changes to Tier 1 Section 2.6.3 and Tables 2.6.3-1, 2.6.3-3, and 2.6.3-4 and corresponding changes to Appendix C or any other Tier 1 information would be subject to the exemption process in Section VIII.A.4 of Appendix D to 10 CFR Part 52. The change does not alter or impede the design, function, or operation of any plant SSCs associated with the facility's physical or cyber security and, therefore, does not affect any plant equipment that is necessary to maintain a safe and secure plant status. In addition, the changes have no impact on plant security or safeguards. Therefore, as required by 10 CFR 50.12(a)(1), the staff finds that the common defense and security is not impacted by this exemption.

3.1.4 SPECIAL CIRCUMSTANCES

Special circumstances, in accordance with 10 CFR 50.12(a)(2)(ii), are present whenever application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule. The underlying purpose of the Tier 1 information is to ensure that a licensee will safely construct and operate a plant based on the certified information found in the AP1000 DCD, which was incorporated by reference into the VCSNS's licensing basis. The proposed changes would reconfigure the IDS, as presented in Tier 1 ITAAC tables. These changes will enable the licensee to safely construct and operate the AP1000 facility consistent with the design certified by the NRC by changing the information mentioned above found in Tier 1 Section 2.6.3 and Tables 2.6.3-1, 2.6.3-3, and 2.6.3-4 of the DCD and corresponding changes to Appendix C.

Special circumstances are present in the particular circumstances discussed in LAR 16-16 because the application of the specified Tier 1 information does not serve the underlying purpose of the rule. The proposed change implements changes to reconfigure the IDS, as presented in Tier 1 ITAAC tables. This exemption request and associated revisions to Tier 1 Section 2.6.3 and Tables 2.6.3-1, 2.6.3-3, and 2.6.3-4 and corresponding changes to Appendix C demonstrate that the applicable regulatory requirements will continue to be met. Consequently, the safety impact that may result from any reduction in standardization is minimized because the proposed design change does not result in a reduction in the level of safety. Therefore, the staff finds that the special circumstances required by 10 CFR 50.12(a)(2)(ii) for the granting of an exemption from the Tier 1 information exist.

3.1.5 SPECIAL CIRCUMSTANCES OUTWEIGH REDUCED STANDARDIZATION

This exemption would allow the implementation of changes to Tier 1 Section 2.6.3 and Tables 2.6.3-1, 2.6.3-3, and 2.6.3-4 in the DCD and corresponding changes to Appendix C that are being proposed in the LAR. The design functions of the system associated with this request will continue to be maintained because the associated revisions to Tables 2.6.3-1, 2.6.3-3, and 2.6.3-4 demonstrate that the applicable regulatory requirements will continue to be met. Consequently, the safety impact that may result from any reduction in standardization is minimized, because the proposed design change does not result in a reduction in the level of safety. Based on the foregoing reasons, as required by 10 CFR Part 52.63(b)(1), the staff finds that the special circumstances outweigh the effects the departure has on the standardization of the AP1000 design.

3.1.6 NO SIGNIFICANT REDUCTION IN SAFETY

This exemption would allow the implementation of changes to Tier 1 Section 2.6.3 and Tables 2.6.3-1, 2.6.3-3, and 2.6.3-4 in the DCD and corresponding changes to Appendix C that are being proposed in the LAR. The exemption request proposes to depart from the certified design by reconfiguring the IDS. The changes for consistency will not impact the functional capabilities of this system. The proposed changes will not adversely affect the ability of the IDS to perform its design functions, and the level of safety provided by the current systems and equipment therein is unchanged. Therefore, based on the foregoing reasons and as required by 10 CFR Part 52, Appendix D, Section VIII.A.4, the staff finds that granting the exemption would not result in a significant decrease in the level of safety otherwise provided by the design.

3.2 TECHNICAL EVALUATION OF PROPOSED CHANGES

In LAR 16-16, the licensee proposed to make changes that would affect the COL Appendix C, the corresponding plant-specific Tier 1 information, as well as the UFSAR. The changes affect the IDS as summarized below:

The proposed change adds seven Class 1E fuse isolation panels to the IDS as follows:

- IDSA-EA-5 is added to Division A dc Equipment Room (Auxiliary Building 12201) to support Division A 24-hr Batteries IDSA-DB-1A/B
- IDSB-EA-7 is added to Division B dc Equipment Room (Auxiliary Building 12207) to support Division B 24-hr Batteries IDSB-DB-1A/B
- IDSB-EA-8 is added to Division B dc Equipment Room (Auxiliary Building 12207) to support Division B 72-hr Batteries IDSB-DB-2A/B
- IDSC-EA-7 is added to Division C dc Equipment Room (Auxiliary Building 12203) to support Division C 24-hr Batteries IDSC-DB-1A/B
- IDSC-EA-8 is added to Division C dc Equipment Room (Auxiliary Building 12203) to support Division C 72-hr Batteries IDSC-DB-2A/B
- IDSD-EA-5 is added to Division D dc Equipment Room (Auxiliary Building 12205) to support Division D 24-hr Batteries IDSD-DB-1A/B
- IDSS-EA-1 is added to Spare Room (Auxiliary Building 12112) to support Spare Batteries IDSS-DB-1A/B

Plant-specific Tier 1 and COL Appendix C changes:

1. New design commitment 4.j) is added to Section 2.6.3 identifying that the IDS provides electrical isolation between the non-Class 1E battery monitors and the Class 1E battery banks.
2. Table 2.6.3-1 is updated to add the new fuse panels.
3. Table 2.6.3-3 is updated with a requirement based on the new design commitment.
4. Table 2.6.3-4 is updated to add the new fuse panels.

UFSAR Tier 2 changes:

1. The seven battery monitor fuse panels as described above are added to Table 3.11-1.
2. The seven battery monitor fuse panels and corresponding tag numbers are added to Table 3I.6-2.
3. Description of the battery monitor fuse panels is added to Subsection 8.3.2.1.1.1.
4. The seven battery monitor fuse panels are added to Figure 8.3.2-1.

The basis for this LAR is that the licensee identified that the seven non-Class 1E battery monitors are connected to each of the corresponding seven Class 1E batteries without proper protection for the Class 1E system. The design is implemented without the required electrical isolation and physical separation between non-Class 1E and Class 1E equipment. GDC 17, "Electric Power Systems," requires that the onsite power system be capable of performing its safety functions in the presence of a single failure and Regulatory Guide (RG) 1.53, "Application of the Single-Failure Criterion to Nuclear Power Plant Protection Systems," provides guidance on single failures in the analysis. An example of a single failure that is pertinent to this situation is potential failure of a non-safety-related SSCs causing failure of a safety-related SSCs. Such potential failures must be eliminated from the design. NUREG-0800, Section 8.3.2, states that the non-Class 1E and the Class 1E equipment must be isolated to prevent faults from degrading the operation of Class 1E systems or components below an acceptable level.

The battery monitor fuse panels that the licensee identified are necessary to prevent credible faults within the battery monitors and associated non-Class 1E circuits from unacceptably challenging the operation of the IDS, and to comply with RG 1.75 Revision 2, "Physical Independence of Electric System," (consistent with UFSAR Appendix 1A exceptions, i.e.: two class 1E fuse in series) and as detailed in Institute of Electrical and Electronics Engineers (IEEE) 384-1981, "IEEE Standard Criteria for Independence of Class 1E Equipment and Circuits." The licensee chose to use an isolation scheme comprised of two Class 1E fuses in series per isolated circuit. Because the Class 1E Fuse Isolation Panels consist of the two-fuse combination, the staff finds that this meets the acceptance criteria of the UFSAR and is acceptable.

GDC 2 requires that SSCs important to safety shall be designed to withstand the effects of natural phenomena without loss of capability to perform their safety functions. The licensee states that the proposed design will be qualified and mounted as seismic Category I equipment and does not impact the existing seismic design requirements. The licensee also states that the fuse isolation panels will be added to UFSAR, Table 3I.6-2, "List of Potential High Frequency Sensitive AP1000 Safety-Related Electrical and Electro-Mechanical Equipment." Because the above design features comply with GDC 2, the staff finds them acceptable.

GDC 4 requires that SSCs important to safety shall be designed to withstand the envelope of environmental conditions possible where the equipment is located under all conditions. The licensee states that the fuse isolation panels will be qualified as isolation devices in accordance with IEEE 384-1981 and RG 1.75, with the exceptions noted in Appendix 1A and will be added to Table 3.11-1, "Environmentally Qualified Electrical and Mechanical Equipment." Because the isolation devices are in accordance to IEEE 384-1981 and RG 1.75 and with the exceptions noted in Appendix 1A and will be added to Table 3.11-1, "Environmentally Qualified Electrical and Mechanical Equipment," the staff finds that the above actions comply with the requirements of GDC 4 and are acceptable.

GDC 17 requires, in part, that the onsite power system meets the single failure criterion and that the specified equipment be capable of performing its intended function. The licensee states that the panel design specification requires fuse sizes based on the maximum credible voltage or current transient for the non-1E circuits to be isolated from the Class 1E portions of the IDS in accordance with IEEE 384-1981, with a minimum short circuit rating of 65 kA (ac) / 40 kA (dc) at a rated voltage of 580 Vac / 300 Vdc. An inspection of the fuse panel and fuses used to isolate the non-Class 1E and the Class 1E equipment will be performed per the ITAAC in AP1000 DCD Tier 1, Revision 19, Table 2.6.3-3, "Class 1E dc and Uninterruptible Power Supply System ITAAC," item 1. Additionally, the fuse sizes and short circuit rating will be verified via the ITAAC in AP1000 DCD Tier 1, Revision 19, Table 2.6.3-3, "Class 1E dc and Uninterruptible Power Supply System ITAAC," items 7 and 8. The licensee commits to additional testing to verify overcurrent protection for each fuse (such as by resistance measurement) per specific testing requirements for the use of fuses as an isolation device in accordance with IEEE 384-1981. Staff finds that the design of the proposed fuse panels complies with RG 1.75 Revision 2 and IEEE 384-1981 related to electrical isolation and physical separation requirements. The staff also finds that the above design features of the fuse panels provide the required capability, physical separation and electrical isolation to prevent faults on the non-Class 1E battery monitors and associated cabling from unacceptably degrading the performance of Class 1E IDS circuits and equipment comply with the requirements of GDC 17 and are acceptable.

GDC 18 requires provisions of a Class 1E design to include the capability for inspection and testing. The licensee states that the proposed changes to add seven fuse panels to the IDS design satisfies the testing requirements of IEEE 384-1981, including functional testing of the panels to confirm their ability to perform their electrical isolation function as part of qualification testing, and the additional testing requirements for each fuse (such as by resistance measurement) to verify overcurrent protection as designed. The panels are designed such that internals are accessible from the front to facilitate periodic inspection and testing consistent with the requirements of UFSAR Subsection 8.3.2.1.4. Because the above design features comply with GDC 18, the staff finds them acceptable.

In summary, the proposed addition of the seven Class 1E isolation panels corrects an identified inadequacy in the design, conforms to the requirements of GDCs 2, 4 and 18 and brings the overall IDS design into conformance with GDC 17.

3.3 SUMMARY

In LAR 16-16, the licensee proposed to make changes that would affect the COL Appendix C, the corresponding plant-specific Tier 1 information, as well as the UFSAR.

The NRC documented its review of the above changes in Section 3.2 of this safety evaluation and finds the changes to the IDS and the affected sections in COL Appendix C, its corresponding plant-specific DCD Tier 1 and the UFSAR acceptable in accordance with 10 CFR 50, Appendix A, GDCs 2, 4, 17 and 18 and the guidance provided in SRP 8.3.2, "Onsite DC Power System," and RG 1.75, "Physical Independence of Electric Systems."

4.0 STATE CONSULTATION

In accordance with the Commission's regulations in 10 CFR 50.91(b), the designated South Carolina State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20, *Standards for Protection Against Radiation*. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite. Also, there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (*Federal Register*, 81 FR 73428 (October 25, 2016)). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

Because the exemption is necessary to allow the changes proposed in the license amendment, and because the exemption does not authorize any activities other than those proposed in the license amendment, the environmental consideration for the exemption is identical to that of the license amendment. Accordingly, the exemption meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment needs to be prepared in connection with the issuance of the exemption.

6.0 CONCLUSION

The staff has determined that pursuant to Section VIII.A.4 of Appendix D to 10 CFR Part 52, the exemption (1) is authorized by law, (2) presents no undue risk to the public health and safety, (3) is consistent with the common defense and security, (4) presents special circumstances, (5) the special circumstances outweigh the potential decrease in safety due to reduced standardization, and (6) does not reduce the level of safety at the licensee's facility. Therefore, the staff grants the licensee an exemption from the Tier 1 information requested by the licensee.

The staff has concluded, based on the considerations discussed in Section 3.2 and confirming that these changes do not change an analysis methodology, assumptions, or the design itself, that there is reasonable assurance that: (1) the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public. Therefore, the staff finds the changes proposed in this license amendment acceptable.

7.0 REFERENCES

1. South Carolina Electric & Gas Company, Virgil C. Summer Nuclear Station Units 2 and 3, "Request for License Amendment and Exemption: IDS Fuse Isolation Panel Additions" dated September 28, 2016 (ADAMS Accession No. ML16272A373).
2. VCSNS UFSAR, Revision 3, Tier 1, dated July 1, 2015 (ADAMS Accession No. ML15196A196).
3. AP1000 Design Control Document, Revision 19, dated June 13, 2011 (ADAMS Accession No. ML11171A500).
4. COL NPF-93 for VCSNS Unit 2, SCE&G (ADAMS Accession No. ML14100A092).
5. COL NPF-94 for VCSNS Unit 3, SCE&G (ADAMS Accession No. ML14100A101).
6. Regulatory Guide (RG) 1.53, Revision 2, "Application of the Single-Failure Criterion to Nuclear Power Plant Protection Systems," dated November 2003, (ADAMS Accession No. ML033220006).
7. RG 1.75, Revision 3, "Physical Independence of Electric Systems," dated February 2005, (ADAMS Accession No. ML043630448).
8. IEEE 384-1981, "IEEE Standard Criteria for Independence of Class 1E Equipment and Circuits," 1981.